

## PATENT COOPERATION TREATY

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REC'D 09 AUG 2005

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 76.0869 WO	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/B2004/002815	International filing date (day/month/year) 30.08.2004	Priority date (day/month/year) 09.09.2003	
International Patent Classification (IPC) or national classification and IPC H04L29/06			

Applicant AXALTO SA et al
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1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a.  sent to the applicant and to the International Bureau) a total of sheets, as follows:
    - sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b.  (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/> Box No. I	Basis of the opinion
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand 30.03.2005	Date of completion of this report 08.08.2005
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Bertolissi, E Telephone No. +49 89 2399-



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/IB2004/002815

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:

- international search (under Rules 12.3 and 23.1(b))
- publication of the international application (under Rule 12.4)
- international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements\*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

**Description, Pages**

1-10 as originally filed

**Claims, Numbers**

1-5 as originally filed

**Drawings, Sheets**

1/2-2/2 as originally filed

a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3.  The amendments have resulted in the cancellation of:

- the description, pages
- the claims, Nos.
- the drawings, sheets/figs
- the sequence listing (*specify*):
- any table(s) related to sequence listing (*specify*):

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages
- the claims, Nos.
- the drawings, sheets/figs
- the sequence listing (*specify*):
- any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/IB2004/002815

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-5
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-5
Industrial applicability (IA)	Yes: Claims	1-5
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.  
PCT/IB2004/002815

**Cited documents**

The following documents are mentioned for the first time in this written opinion; the numbering will be adhered to in the rest of the procedure:

D1: EP-A-1 156 694 (MITSUBISHI ELECTRIC CORP) 21 November 2001 (2001-11-21)  
D2: WO 99/64996 A (LANDIS & GYR COMMUNICATIONS S ;CAMBOIS ETIENNE (FR)) 16 December 1999 (1999-12-16)

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The subject matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.
  1. Document D1 discloses, according to most of the features of claim 1, an authentication method in a system including a first entity (figure 16, sender) and a second entity (figure 16, receiver) mutually communication by way of a network (figure 16, radio network) both storing the same secret key (figure 16, IK), the method comprising the steps of:  
receiving by said first entity a message authentication code (column 14, lines 19-24 and 32-34);  
computing by said first entity an expected code (column 14, lines 34,35);  
comparing said message authentication code received and said expected code (column 14, lines 35-37)  
aborting authentication if the message authentication code received and the expected code do not match (column 14, lines 44-45)
  2. The subject-matter of claim 1 differs from this disclosure of D1 only in that the method has an additional step of:  
updating in said first entity a failure counter every time the message authentication code received and the expected code do not match.
  3. The difference relates to the problem of detecting consecutive attacks.

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.  
PCT/IB2004/002815

The problem is rendered obvious by D1 which mentions that the connection has to be disconnected in case of consecutive attacks (column 14, lines 44-45).

It is then a straightforward measure to count these attacks in order to figure out if a certain number of failed attempts occurred in a predetermined period. Using counters for this purpose is also generally known in the art, see for example D2 page 7.

The person skilled in the art faced with the above mentioned problem would therefore add to the method described in D1 the step of updating a counter to keep track of the number of failed authentication attempts thus obtaining the method of claim 1.

The inventive step objection also applies to claim 5, which corresponds to claim 1.

2. The inventive step objection also applies to claim 5, which corresponds to claim 1.
3. The additional features of the dependent claims do not add anything inventive because they are either directly known or derivable from the above mentioned D1 (detecting duplicated packets) or presents standard practice (checking the number of failed attempts before starting the procedure).